

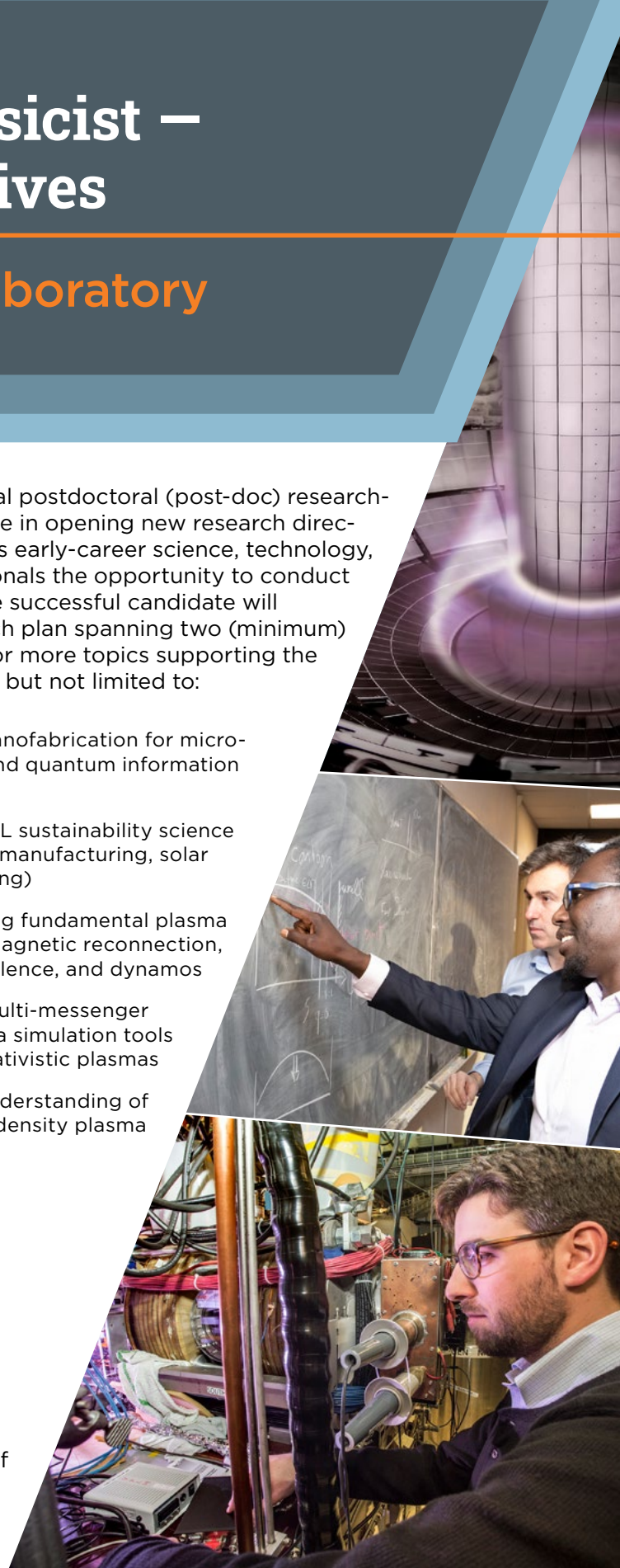
# Associate Research Physicist – Strategic Science Initiatives

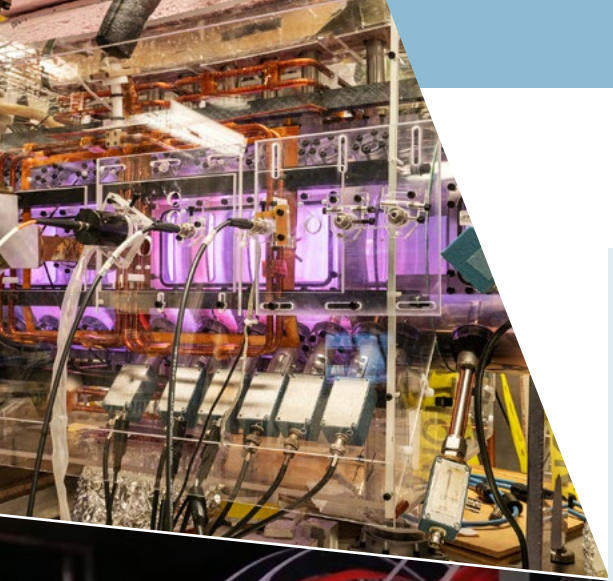
## Princeton Plasma Physics Laboratory

Princeton Plasma Physics Laboratory (PPPL) seeks exceptional postdoctoral (post-doc) researchers with demonstrated leadership potential to play a major role in opening new research direction(s) for PPPL. This postdoctoral research opportunity offers early-career science, technology, engineering, computation, and applied mathematics professionals the opportunity to conduct impactful research at a world-leading research institution. The successful candidate will propose in their job application cover letter a succinct research plan spanning two (minimum) to three (maximum) years in duration that encompasses one or more topics supporting the scientific and research diversification goals of PPPL, including but not limited to:

- Understanding spherical torus plasma regimes for reduced-cost fusion
- Advancing optimized stellarators and exploiting 3D-fields to improve tokamaks
- Developing liquid metal walls to increase energy confinement and mitigate heat fluxes
- Developing validated whole device models for ITER and next-steps including Pilot Plants exploiting machine learning, artificial intelligence, and high-performance computing
- Developing innovative diagnostics, technologies, and engineering for next-step devices
- Developing superconducting magnet technologies for reduced-cost fusion devices
- Optimizing plasma edge composition to improve fusion performance
- Developing new scientific discoveries and applications of low temperature plasmas
- Advancing nanofabrication for micro-electronics and quantum information science
- Initiating PPPL sustainability science (e.g., electro-manufacturing, solar geoengineering)
- Understanding fundamental plasma processes: magnetic reconnection, shocks, turbulence, and dynamos
- Advancing multi-messenger astronomy via simulation tools for highly relativistic plasmas
- Increasing understanding of high-energy density plasma processes

The successful candidate will work with researchers at PPPL and may also propose to join one or more of the wide range of domestic and international scientific collaborations PPPL scientists participate in.





## Responsibilities

To lead, publish, present, and disseminate innovative and impactful research results relevant to the PPPL scientific and research diversification goals of PPPL.

## Qualifications

### Education & Experience

- Ph.D. conferred within five years at the time of application or completion of Ph.D. requirements by commencement of appointment in plasma physics, fusion science, engineering (e.g., nuclear, mechanical, electrical, systems), computer science, engineering, applied mathematics, or a related field.
- Experience in topical area(s) aligning with PPPL's mission and scientific and research diversification goals.
- Evidence of academic achievement with potential for scientific and strategic leadership.

### Knowledge, Skills & Abilities

- Demonstrated technical and scientific excellence, strong communication and presentation skills, skills to help advance a diverse, equitable, and inclusive workplace, ability to work effectively in a team environment, leadership potential, and strategic thinking and planning skills.



To apply, scan the QR code or visit the link below:

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